

WHAT IS CLAIMED IS:

1. - 24. (canceled)

25. (currently amended) A method for qualitative or quantitative detection of a nucleic acid in a sample, said method comprising the steps of:

amplifying a nucleic acid to be detected in a sample in the presence of at least one single-stranded detection probe that by a reversible binding action binds reversibly to a binding region of said nucleic acid to be detected and enables a detection of said nucleic acid to be detected based on said reversible binding action;

providing a single-stranded control nucleic acid in said sample and amplifying said single-stranded control nucleic acid in said sample, wherein said single-stranded control nucleic acid has a binding region that also binds said at least one single-stranded detection probe and wherein said binding region of said single stranded control nucleic acid has a nucleotide sequence having at least one deviation in comparison to said nucleotide sequence of said binding region of said nucleic acid to be detected;

wherein a first product of said nucleic acid to be detected and of said at least one single-stranded detection probe and a second product of said single-stranded control nucleic acid and of said at least one single-stranded detection probe have different melting points and a temperature difference of said melting points is sufficiently large to analytically differentiate said first and second products from one another for carrying out said detection.

26. (previously presented) The method according to claim 25, wherein said melting point of said second product is lower than said melting point of said first product.

27. (previously presented) The method according to claim 25, wherein said

temperature difference is at least 5 °C.

28. (currently amended) The method according to claim 25, wherein said single-stranded control nucleic acid and said nucleic acid to be detected are amplified with identical primers.

29. (currently amended) The method according to claim 25, wherein said nucleic acid to be detected and said single-stranded control nucleic acid are amplified by polymerase chain reaction.

30. (currently amended) The method according to claim 25, wherein two or more of said nucleic acid to be detected and two or more of said single-stranded control nucleic acid are present in said same sample and wherein for each one of said nucleic acids to be detected one of said single-stranded control nucleic acids is present.

31. (previously presented) The method according to claim 25, wherein said nucleic acid to be detected is a DNA or an RNA derived in particular from a pathogen.

32. (previously presented) The method according to claim 25, wherein said detection of said nucleic acid to be detected is carried out in real-time.

33. (previously presented) The method according to claim 32, wherein said detection is carried out at a temperature that is 2°C to 10 °C below said melting temperature of said first product.

34. (previously presented) The method according to claim 33, wherein said melting point of said second product is so low that said second product is negligible or not at all present in said detection.

35. (currently amended) The method according to claim 25, wherein only one of said at least one single-stranded detection probe is used and said detection of said

nucleic acid to be detected is based on a melting curve of said nucleic acid to be detected in the presence of said at least one single-stranded detection probe, wherein a melting curve of said single-stranded control nucleic acid in the presence of said at least one single-stranded detection probe serves as an internal control of proper amplification.

36. (currently amended) The method according to claim 25, wherein two of said at least one single-stranded detection probe are used, wherein a first one of said two single-stranded detection probes carries a reporter group and a second one of said two single-stranded detection probes changes observable properties of said reporter group when in a position in the vicinity of said reporter group.

37. (currently amended) The method according to claim 25, wherein said at least one single-stranded detection probe carries a reporter group and a second group that changes observable properties of said reporter group when in a position in the vicinity of said reporter group, wherein said reporter group and said second group are positioned so close to one another that said observable properties of said reporter group are changed either only during binding of said at least one single-stranded detection probe to said nucleic acid to be detected or only in a non-bonded state of said at least one single-stranded detection probe.

38. (currently amended) The method according to claim 25, wherein said nucleotide sequence of said single-stranded control nucleic acid in said binding region for said at least one single-stranded detection probe has at least one modification relative to said nucleic acid to be detected.

39. (previously presented) The method according to claim 38, wherein said at least one modification is an exchange of a G or a C.

40. (currently amended) The method according to claim 25, wherein said nucleotide sequence of said single-stranded control nucleic acid in said binding region for said at least one single-stranded detection probe has at least two modifications relative to said nucleic acid to be detected.

41. (previously presented) The method according to claim 41, wherein said nucleotide sequence has three to five of said at least two modifications.

42. (currently amended) The method according to claim 25, wherein a sequence region of said single-stranded control nucleic acid that can neither hybridize with said at least one single-stranded detection probe nor optionally with a primer is shortened.

43. (currently amended) The method according to claim 25, wherein a sequence region of said single-stranded control nucleic acid that can neither hybridize with a single-stranded detection probe nor optionally with a primer has significant deviations relative to said nucleic acid to be detected.

44. (currently amended) The method according to claim 43, wherein said modifications are distributed approximately uniformly across said binding region for said at least one single-stranded detection probe.

45. (currently amended) A kit comprising:  
a single-stranded nucleic acid suitable particularly as a control nucleic acid for a negative control in a method for detecting a nucleic acid to be detected;

a probe system comprising at least one probe comprising [[an]] a single-stranded oligonucleotide that binds to said single-stranded nucleic acid suitable particularly as a control nucleic acid;

wherein said at least one probe has a reporter group with an observable

property that changes as a function of whether said at least one probe is bonded or not to said single-stranded nucleic acid suitable particularly as a control nucleic acid;

wherein said single-stranded nucleic acid suitable particularly as a control nucleic acid in at least one region where said single-stranded oligonucleotide of said at least one probe binds has at least one mismatch relative to said single-stranded oligonucleotide.

46. (currently amended) The kit according to claim 45, wherein said single-stranded nucleic acid particularly suitable as a control nucleic acid has at least two of said at least one mismatch.

47. (currently amended) The kit according to claim 46, wherein several of said at least one mismatch are uniformly distributed across said at least one binding region for said single-stranded oligonucleotide.